SUBCONTRACT NO. TBD University of California Lawrence Livermore National Laboratory Procurement & Materiel P. O. Box 5012 Livermore, CA 94551 University Procurement Representative: Brandt Esser Phone #: (925) 423-1518 Fax #: (925) 423-8019 E-Mail: esser3@llnl.gov

Introduction

This is a Fixed Price Subcontract for the acquisition of an open source high performance production cluster InfiniBand infrastructure, as further described herein.

The parties to this Subcontract are The Regents of the University of California (hereinafter called "University") and the party identified above as the "Subcontractor."

This is a Subcontract under Prime Contract No. W-7405-ENG-48 between the University and the United States Government (hereinafter called "Government"), represented by the Department of Energy National Nuclear Security Administration (hereinafter called "DOE/NNSA"), for the management and operation of the Lawrence Livermore National Laboratory (hereinafter called "LLNL") and the performance of certain research and development work.

Agreement

The parties agree to perform their respective obligations in accordance with the terms, conditions, and provisions of the attached SCHEDULE OF ARTICLES and any documents referenced or incorporated therein, which together with this Subcontract Signature Page shall collectively constitute the entire Subcontract and shall supersede all prior negotiations, representations, or agreements, whether verbal or written.

	TBD	THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
BY:		BY:
TITLE:		TITLE: LLNL Procurement & Materiel
DATE:		DATE:

Signature Page S/C No. TBD

Req. No. TBD (DM-711; 06-16-04)

SCHEDULE OF ARTICLES FOR SUBCONTRACT NO. TBD

ARTICLE 1 – INCORPORATED DOCUMENTS

The following documents and forms are hereby incorporated as a part of this Schedule of Articles of the Subcontract and are referenced, or attached hereto:

Documents

GENERAL PROVISIONS FOR FIXED PRICE SUPPLIES AND SERVICES (GPs # 600C; 10/30/03) (Note: The General Provisions are available on-line at URL http://www.llnl.gov/procurement/genprovisions/html/genprov.html)

DRAFT STATEMENT OF WORK FOR THE OPEN SOURCE HIGH PERFORMANCE PRODUCTION CLUSTER INFINIBAND INFRASTRUCTURE, Dated July 13, 2004

GNU GENERAL PUBLIC LICENSE VERSION 2, Dated June 1991

SITE SERVICES REQUIREMENTS (SSR ES&H LEVEL 0; 02/14/03)

SMALL BUSINESS SUBCONTRACTING PLAN, Dated _____

SECURITY AND SITE ACCESS PROVISIONS (03/04/04)

ARTICLE 2 – SCOPE OF WORK

- A. The Subcontractor shall develop a high performance production cluster InfiniBand infrastructure. The work is more specifically described in the Statement of Work.
- B. The Subcontractor shall furnish all personnel, supervision, materials, supplies, equipment, tools, facilities, transportation, testing, and other incidental items and services necessary for performance of the work, except for Government Property specified herein to be furnished by the University. The Subcontractor shall deliver the materials, products, supplies, reports and residuals, as specified.
- C. The work shall be performed by the Subcontractor at the Subcontractor's facility located at ______, at the LLNL, and at other locations approved by the University.

ARTICLE 3 – SAFETY-RELATED REQUIREMENTS

- A. <u>General</u>. The Subcontractor shall comply with all ES&H requirements, training, and associated safety documents referenced, attached, or incorporated to this Subcontract, including any incorporated safety related documents submitted by the Subcontractor and reviewed and accepted by the University. The Subcontractor shall also comply with, and assist the University and the DOE/NNSA in complying with OSHA requirements, and applicable University or DOE/NNSA directives identified in this Subcontract.
- B. <u>Safety Standards and Testing</u>. Materials, supplies, and equipment furnished or used by the Subcontractor under this Subcontract shall meet nationally recognized safety standards or be tested by the Subcontractor in a manner demonstrating they are safe for use. All electrical equipment, components, conductors, and other electrical material shall be of a type that is

listed, labeled, or tested by a Nationally Recognized Testing Laboratory (NRTL) in accordance with Title 29, Part 1910, *Occupation Safety and Health Standards*, of the Code of Federal Regulations (29 CFR 1910). The Subcontractor shall notify the University Procurement Representative and the University Technical Representative, in writing, of any materials, supplies, or equipment to be furnished or used under this Subcontract that does not meet these requirements.

ARTICLE 4 – PERIOD OF PERFORMANCE

The work described in ARTICLE 2 - SCOPE OF WORK shall be completed on or before the following milestone completion dates:

Milestone <u>Completion Date</u>

ARTICLE 5 – PRICE AND PAYMENT

A. Fixed Price

The Subcontractor shall perform this Subcontract for the total fixed price of \$TBD.

B. Allocated Funding Limit

The funding presently allocated for payment to the Subcontractor under this Subcontract is limited to \$300,000.00. The allocated funding amount is expected to cover delivery of TBD.

It is anticipated that the University will increase this allocated funding amount up to the total fixed price of this Subcontract as funding becomes available, excluding unexercised options; however, the University shall not be obligated to do so. The allocated funding amount may only be changed by a written unilateral modification to this Subcontract issued by the University Procurement Representative.

The allocated funding amount specified above shall be the limit of the University's liability for all costs under this Subcontract, any other provision to the contrary notwithstanding. The Subcontractor is not obligated to continue performance under this Subcontract or otherwise incur cost or expenses in excess of the allocated funding amount. The Subcontractor shall notify the University in writing at least five working days prior to stopping work to avoid exceeding the allocated funding amount.

The fixed price stated above does not include and the University shall not be charged for any State Sales & Use Tax. The University holds California State Resale Permit No. SR-CHA 21-135323.

C. Pricing of Adjustments

When costs are a factor in any determination of a Subcontract price adjustment, pursuant to a change to this Subcontract, such costs shall be in accordance with the contract cost principles and procedures in Part 31 of the Federal Acquisition Regulation (48 CFR Part 31), as supplemented or modified by DEAR Part 931(48 CFR Part 931) in effect as of the date of award of this Subcontract.

The University reserves the right to audit the Subcontractor's books and records to verify that any modification conforms with the requirements referenced above. The audit will be performed by University personnel or cognizant Government audit agency. The method of audit will be at the sole discretion of the University.

D. Invoices-Milestone Payments

- 1. Based on satisfactory technical progress, as determined by the University Technical Representative, the Subcontractor may submit invoices in accordance with the Milestone Payment Schedule.
- 2. The Subcontractor shall submit its invoice(s) to the following address:

University of California Lawrence Livermore National Laboratory Attention: Brandt Esser, L-550 P.O. Box 5012 Livermore, CA 94551

E. Payment Terms

The terms of payment shall be 30 days after receipt of a proper invoice. Payment amounts shall be less any applicable adjustments, credits, offsets, or tax withholds. Payment on an invoice shall not constitute final acceptance of the related performance.

ARTICLE 6 – COORDINATION AND ADMINISTRATION

- A. The University Procurement Representative for this Subcontract is Brandt Esser. All matters relating to the administration, performance and non-technical interpretation of this Subcontract shall be referred to the University Procurement Representative. The Subcontractor shall direct all notices and requests for approval to the University Procurement Representative. The University Procurement Representative will issue any notices or non-technical approvals to the Subcontractor.
- B. The University Technical Representative for this Subcontract is TBD. The University Technical Representative will provide technical direction in connection with the work to be performed under this Subcontract. The term "technical direction" is defined to include (1) direction to the Subcontractor which assist in the interpretation of drawings, specifications,

or technical portions of the work description; and (2) the review and approval of technical reports, drawings, specifications, and information to be delivered by the Subcontractor under the Subcontract, where required. The University Technical Representative will issue all technical direction in writing.

C. The University Technical Representative is not authorized to issue any technical direction which would (1) constitute an assignment of work outside the general scope of the work covered by this Subcontract; (2) change the description of the work to be performed or any applicable drawings, designs, and specifications; (3) change the time or place of performance; the method of shipment or packaging, or the place of inspection, delivery or acceptance; (4) increase the estimated cost for performance of the work or the time required for performance of the work; (5) change any expressed term or condition of the Subcontract; or (6) unreasonably interfere with the Subcontractor's ability to perform and complete the work. Any such change must first be authorized by a written modification to this Subcontract issued by the University Procurement Representative.

ARTICLE 7 – PROPERTY

A. The Subcontractor shall acquire, and/or the University will furnish to the Subcontractor, the materials, equipment, supplies, and/or tangible personal property items identified below, for use under this Subcontract:

Subcontractor Acquired Property

None

University Furnished Government Property

None

B. All property acquired by the Subcontractor and/or furnished by the University shall be identified, utilized, accounted for, and dispositioned in accordance with the clause of the General Provisions entitled GOVERNMENT PROPERTY (FIXED-PRICE CONTRACTS). Disposition directions and authorization will be provided by the University's Property Management Department.

ARTICLE 8 – APPROVAL OF TECHNICAL DATA

If this Subcontract requires the Subcontractor to furnish any drawings, specifications, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance or test data, or other technical data for approval by the University prior to Subcontractor performance, the approval of the data by the University shall not relieve the Subcontractor from responsibility for any errors or omissions in such data or from responsibility for complying with the requirements of this Subcontract, except as specified below. Any work done prior to such approval shall be at the Subcontractor's risk.

If the data includes any variations from the Subcontract requirements, the Subcontractor shall describe such variations in writing at the time of submission of the data. If the University approves any such variation(s), a change order to the Subcontract shall be issued by the University and, if appropriate, a bilateral modification to the Subcontract shall be negotiated.

ARTICLE 9 – ASSIGNMENT OF PERSONNEL

It is understood and agreed that the Subcontractor's key technical personnel assigned to this work shall not be reassigned or replaced without prior University approval, except where such circumstances are beyond the reasonable control of the Subcontractor.

ARTICLE 10 – RELEASE OF INFORMATION

Information regarding this Subcontract or the undertaking or any data developed hereunder shall not be released without the University Procurement Representative's prior written approval. The name of the University, LLNL, or the U.S. Government shall not be used in any publications, news releases, advertising, speeches, technical papers, photographs, or other releases of information without the University Procurement Representative's prior written approval.

ARTICLE 11 – ACCESS TO LLNL COMPUTER RESOURCES

- A. The performance of this Subcontract may require Subcontractor personnel (including lower-tier subcontractor personnel) to use or connect with LLNL computer resources (i.e., computers or computer networks). Any such access and use shall be in accordance with and subject to LLNL Computer Security Operations (LLNL CSO) requirements, including the following:
 - 1. Approval to access specific LLNL computer resources shall be obtained from the appropriate LLNL Information Systems Security Officer (ISSO), through the University Technical Representative.
 - 2. Access to LLNL computer resources by Subcontractor personnel is only permitted as required to perform the work authorized under this Subcontract. Classified computer resources or information shall not be accessed or attempted to be accessed without specific written authorization from the LLNL CSO. Personal and non-work-related use of LLNL computer resources by Subcontractor personnel is prohibited.
 - 3. Only Subcontractor personnel who are U.S. citizens may access or use LLNL computer resources, unless specific written authorization is granted for each non-U.S. citizen by the LLNL CSO.
 - 4. Only the approved Open Terminal Server (OTS) modem pool method shall be used to access unclassified LLNL resources via modems. All unclassified computer systems with modems other than facsimile machines must be configured with auto-answer turned off. Modems are prohibited on classified systems.
 - 5. All software used by Subcontractor personnel on LLNL computer resources must be appropriately acquired and used according to the applicable licensing agreements.

- 6. All information or data furnished by the University or obtained from or developed on a LLNL computer resource by Subcontractor personnel shall be treated as confidential and protected by the Subcontractor to prevent disclosure to any persons other than those authorized by the University.
- 7. Computer passwords used by Subcontractor personnel for LLNL computer resources shall comply with the applicable rules and be protected to prevent disclosure to other persons. If a computer password is disclosed, or disclosure is suspected, the Subcontractor shall immediately notify the University Technical Representative and arrange for replacement of the password.
- 8. The use at the LLNL of any non-LLNL computing or video conferencing equipment with electronic data transfer capabilities (e.g., personal computers, including portables, laptops, electronic notebooks, personal digital assistants, and handhelds) may not be connected to or used to communicate with any LLNL computer resources without the written approval of the University Technical Representative and the LLNL CSO.
- B. These requirements shall be applicable whether such access is at the LLNL, at the Subcontractor's facility, or elsewhere; and shall be applicable to lower-tier subcontractors and their personnel whose work requires access to LLNL computer resources. The Subcontractor shall report any suspected or actual computer security incident as soon as possible to the appropriate ISSO or, if the ISSO is not available, then directly to the LLNL CSO.
- C. The University may monitor the use of LLNL computer resources by network operating software, reviewing the contents of all LLNL computer resources and any computers used to access LLNL computer resources, and other appropriate means.
- D. If the Subcontractor does not comply with the provisions of this article, the University may withdraw the Subcontractor's access to LLNL computer resources. Misuse of LLNL computer resources may be a violation of law and could result in appropriate action, including termination for default and/or criminal prosecution.

ARTICLE 12 – OPEN SOURCE SOFTWARE

A. All computer software first produced in the performance of this Subcontract shall be open-source software and shall be subject to the terms and conditions of an open-source license. The University and the Subcontractor agree to use the GNU General Public License (GPL), Version 2 dated June 1991, open-source license template to license said software. The provisions of the GPL, which is incorporated in this Subcontract as Attachment 3, shall be interpreted to require attachment of the following notice at the start of the source or binary code file of each program to be copied, distributed, and/or modified.

<one line to give the program's name and a brief idea of what it does.>
Copyright © <year><name of author>

This program is free software; it may be redistributed and/or modified under the terms of the GNU General Public License as published by the Free Software Foundation; Version 2 dated June 1991 of the License.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY, including the implied warranty of merchantability or fitness for a particular purpose, OR LIABILITY FOR DAMAGES. See the GNU General Public License for more details.

Neither the names of the U.S. Department of Energy nor the University of California nor the names of its contributors may be used to endorse or promote products derived from this software without prior written permission.

B. Open-source software and its license are generally defined as follows for purposes of software delivered under this Subcontract.

1. Free Redistribution

Open-source software is governed by a license that does not restrict any party from selling or giving away the software as a component of an aggregate software distribution containing programs from different sources. The open-source license shall not require a royalty or other fee for such sale.

2. Source Code

Any program shall include source code and must allow distribution in source code or compiled forms. If an actual product is not distributed with source code, there shall be a well-publicized means of obtaining the source code for no more than a reasonable, nominal reproduction cost – preferably by downloading the source code via the Internet. Deliberately obfuscated source code is not allowed. Intermediate forms, such as the output of a preprocessor or translator, are not allowed.

3. Modifications and Derived Works

Open-source software may be modified or changed into a derived work, both of which shall be distributed under the same terms as the license of the original software or base source code.

4. Distribution of the License

The rights attached to the program, including base open-source software, modified open-source software or derived works, shall apply to all to whom the program is redistributed without the need for execution of an additional license by a recipient.

5. Non-Product Specific

Open-source software shall be distributed with rights that do not depend upon being part of a particular program. All parties receiving open-source software, modified open-source software or derived works shall have the same rights as those granted in conjunction with the original software distribution.

6. Non-Contamination of Co-Distributed Software

When open-source software is be distributed with other software that is not open-source software, the open-source software license shall not place restrictions on the latter.

ARTICLE 13 – GENERAL PROVISIONS

- A. The clauses incorporated by reference in the attached GENERAL PROVISIONS shall be applicable to this Subcontract based on the value of the Subcontract, the status of the Subcontractor, and the nature and location of the work as indicated in the GENERAL PROVISIONS. As used therein, the term "Seller" shall mean "Subcontractor," and the terms "Purchase Order" and "PO" shall mean "Subcontract."
- B. This Subcontract shall not involve access to or the generation of classified information or access to "limited" or "exclusion" security areas. Accordingly, the clauses listed in the GENERAL PROVISIONS related to such work shall not apply.
- C. This Subcontract is for the conduct of research, development, or demonstration (RD&D) work, or design work involving non-standard types of construction. Accordingly, the clauses listed in the GENERAL PROVISIONS related to such work shall apply. The applicable Patent Rights clause of the GENERAL PROVISIONS shall be the clause entitled PATENT RIGHTS-RETENTION BY THE CONTRACTOR PATENT RIGHTS-ACQUISITION BY THE GOVERNMENT.
- D. FAR 52.227-14, paragraph (c)(1) is hereby replaced with the following.
 - (c)(1) Data first produced in the performance of this contract.
 - (A) Unless provided otherwise in paragraph (d) of this clause, the Contractor may establish, without prior approval of the Contracting Officer
 - (i) claim to copyright subsisting in scientific and technical articles based on or containing data (published data) first produced in the performance of this contract and published in academic, technical or professional journals, symposia, proceedings or similar works; and
 - (ii) claim to copyright subsisting in computer software first produced in the performance of this contract.

- (B) The prior, express written permission of the Contracting Officer is required to establish claim to copyright subsisting in all other data first produced in the performance of this contract.
- (C) When claim to copyright is made, the Contractor shall affix the applicable copyright notices of 17 U.S.C. 401 or 402 and acknowledgment of Government sponsorship (including contract number) to the data when such data are delivered to the Government, as well as when the data are published or deposited for registration as a published work in the U.S. Copyright Office.
- (D) For computer software, the Contractor will provide the source code, an expanded abstract, the executable object code and the minimum support documentation needed by a competent user to understand and use the software to DOE's Energy Science and Technology Software Center, P.O. Box 1020, Oak Ridge, TN 37831.
- (E) For published data and computer software as defined in (A) above for which the Contractor has established a claim to copyright, the Contractor grants to the Government, and others acting on its behalf, a paid-up, nonexclusive, irrevocable worldwide license in such copyrighted data to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly by or on behalf of the Government.
- E. DEAR 927.409 (d)(3) is hereby replaced with the following.
 - (d)(3) The Contractor shall promptly deliver to the Contracting Officer, or to the Patent Counsel designated by the Contracting Officer, a duly executed and approved instrument fully confirmatory of all rights to which the Government is entitled and other terms pertaining to the computer software to which claim to copyright is made.

(END OF SCHEDULE OF ARTICLES)